

WHAT IS CLAIMED IS:

1. A process for producing a laminate comprising a polyimide and a conductor layer, which comprises forming at least one conductor layer directly on at least one of the thermoplastic polyimide surfaces, and heating said laminate so that a polyimide and a conductor layer are directly thermally fused and the adhesion strength between the thermoplastic polyimide and the conductor layer is enhanced.

2. A process for producing a laminate comprises a polyimide, a sheet material and a conductor layer, which comprises casting or applying a polyamic acid corresponding to a thermoplastic polyimide to at least one of a sheet material surface, imidating said polyamic acid to form a polyimide laminate having a thermoplastic polyimide surface, forming at least one conductor layer directly on at least one of the thermoplastic polyimide surfaces, and heating said laminate so that a polyimide and a conductor layer are directly thermally fused and the adhesion strength between the thermoplastic polyimide and the conductor layer is enhanced.

3. A process for producing a laminate comprises a polyimide, a sheet material and a conductor layer comprises

attaching at least one thermoplastic film to at least one of a sheet material surface to form a polyimide laminate having thermoplastic polyimide surface(s),

forming at least one conductor layer directly on at least one of the thermoplastic polyimide surfaces, and

heating said laminate so that a polyimide and a conductor layer are directly thermally fused and the adhesion strength between the thermoplastic polyimide and the conductor layer is enhanced.

4. The process according to claims 2 or 3, wherein said sheet material is a non-thermoplastic polyimide film.

5. The process according to any one of claims 1 to 3, wherein the thickness of said conductor layer is from 0.01 to 5 μm .

6. The process according to any one of claims 1 to 3, wherein the heating temperature is 50°C or higher.

7. The process according any one of claims 1 to 3, wherein the heating temperature is higher by 30°C or more than the glass transition temperature of the thermoplastic polyimide.

8. The process according to any one of claims 1 to 3, wherein said heating step is carried out under the pressurized condition.

9. The process according to claim 8, wherein the pressure at the pressurizing is 1 MPa or more.

10. The process according to any one of claims 1 to 3, wherein said conductor layer is formed a dry plating method.

11. The process according to claim 10, wherein said dry plating method is one selected from a group consisting of sputtering method, vacuum evaporation method, ion plating method and chemical evaporation method.

12. The process according to claim 10, which further comprises

increasing the total thickness of the conductor layer by a wet plating method.

13. The process according to any one of claims 1 to 3, wherein said conductor layer comprises copper.

14. A laminate comprising at least one polyimide layer and at least one conductor layer directly laminated on at least one surface of said polyimide, wherein the adhesion strength between the thermoplastic polyimide surface and the conductor layer is 5 N/cm or more when the total thickness of the conductor layer of 15 μm .

15. A laminate comprising a sheet material, at least one polyimide layer provided on at least one surface of the sheet material, and at least one conductor layer directly provided on at least one surface of the polyimide layer,

wherein the adhesion strength between the thermoplastic polyimide surface and the conductor layer is 5 N/cm or more when the total thickness of the conductor layer of 15 μm .

16. A multi-layer wiring board, which comprises the laminate as claimed in any one of claims 1, 2, 3, 14 or 15.